MANUAL PART NUMBER: 400-0522-002

DA103-217

VGA LINE RECEIVER WITH VIDEO EQUALIZATION, GAIN, AND SYNC ADJUSTMENTS USER'S GUIDE

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA103-217** and keep it handy for future reference. These safety instructions are to ensure the long life of your **DA103-217** and to prevent fire and shock hazards. Please read them carefully and heed all warnings.

1.1 GENERAL

- Do not open the unit or power supply, there are high-voltage components inside.
- There are no user serviceable parts inside. Qualified ALTINEX service personnel must perform all service on the **DA103-217**.

1.2 HANDLING

- For best results, place the **DA103-217** in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place the **DA103-217** in direct sunlight, near heaters, or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **DA103-217** carefully. Dropping or jarring can damage the unit.
- Do not pull any cables that are attached to the **DA103-217**.
- Do not place heavy objects on top of the **DA103-217**.
- If the **DA103-217** Interface is not used for an extended period, disconnect the adapter from the wall to avoid fire, shock, and loss of power.

1.3 CLEANING

- Unplug the **DA103-217** adapter before cleaning.
- Clean only with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the unit. Do not open the unit to clean.

1.4 FCC NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

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ABOUT YOUR DA103-217 2

DA103-217
VGA Line Receiver

- Recover signal after 250 ft of ultra-thin VGA cable
- Equalization/gain adjust for image optimization
- Compact and sturdy
- AGC control for sync restoration
- Internal or external EDID selection

The **DA103-217** is a VGA line receiver for long cable runs using RGBHV or VGA type cables. It connects to the display end and allows adjustment of video equalization, gain, and sync threshold to recover degraded analog signals and improve video quality. The **DA103-217** can compensate for up to 250 ft (76 m) of ultra thin VGA cable.

Cable runs over 75 ft (23 m) probably need and should have this line receiver. In applications without the **DA103-217**, customers may complain about image smearing, blurriness, and other distortions. The **DA103-217** eliminates smearing and other distortions while making letters and graphics sharp and legible.

It is recommended to install the **DA103-217** at the display end for best results. Its small size allows easy installation behind a display or in a ceiling space while the metal enclosure provides strength and protection for long life and reliability.

Other features include a signal present indicator that shows when a signal is present, AGC control for sync recovery, and internal or external EDID selection for proper computer settings to match display resolution.

TECHNICAL SPECIFICATIONS 3

Specifications are subject to change.
See www.altinex.com for up-to-date information.

FEATURES/ DESCRIPTION	DA103-217
Inputs	
VGA	15-pin HD F (1)
Output	
Video	15-pin HD F (1)
Power	
DC Power (adapter)	DC power jack (1)
Compatibility	
Signal Types	RGB, RGsB, RGBS, RGBHV, YPbPr
Video Signal Resolutions	VGA through UXGA 480p through 1080i
EDID Memory	Selectable for internal or external
Accessories Included	
Video Cable	VGA to Display, 18 in
Power Adapter	+9VDC, 1.1 A
Optional Accessories	
Ultra-Thin VGA Video Cable	CB3000PV Series

Table 1. **DA103-217** General

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MECHANICAL	DA103-217
Material	0.05 in Al
Color	Silver
Height	0.7 in (18 mm)
Width	3.8 in (97 mm)
Depth	1.6 in (41 mm)
Weight	0.2 lb (0.1 kg)
Shipping Weight (approx.)	1.0 lb (0.5 kg)
T° Operating	10°C-35°C
T° Maximum	0°C-50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. **DA103-217** Mechanical

ELECTRICAL	DA103-217
Video Adjustments	
Gain	0 to 3 dB
Sync Threshold	0.5 to 4.5 V
Equalization	Up to 250 ft (76 m)
Input	
Video Signal	1.4 Vp-p *max*
Video Impedance	75 ohms
Sync Signal	TTL (+/-)
Sync Impedance	10 kohms
Sync Threshold	4.5 V *nominal*
Output	
Video Gain	0 dB +/- 0.5 dB *nominal*
Video Impedance	75 ohms
Sync Signal	TTL (+/-)
Sync Impedance	22 ohms
Sync Polarity	Plus or Minus *(follows input)*
Power Consumption	
+9V	250 mA
Total Power	2.25 W *max*

Table 3. **DA103-217** Electrical

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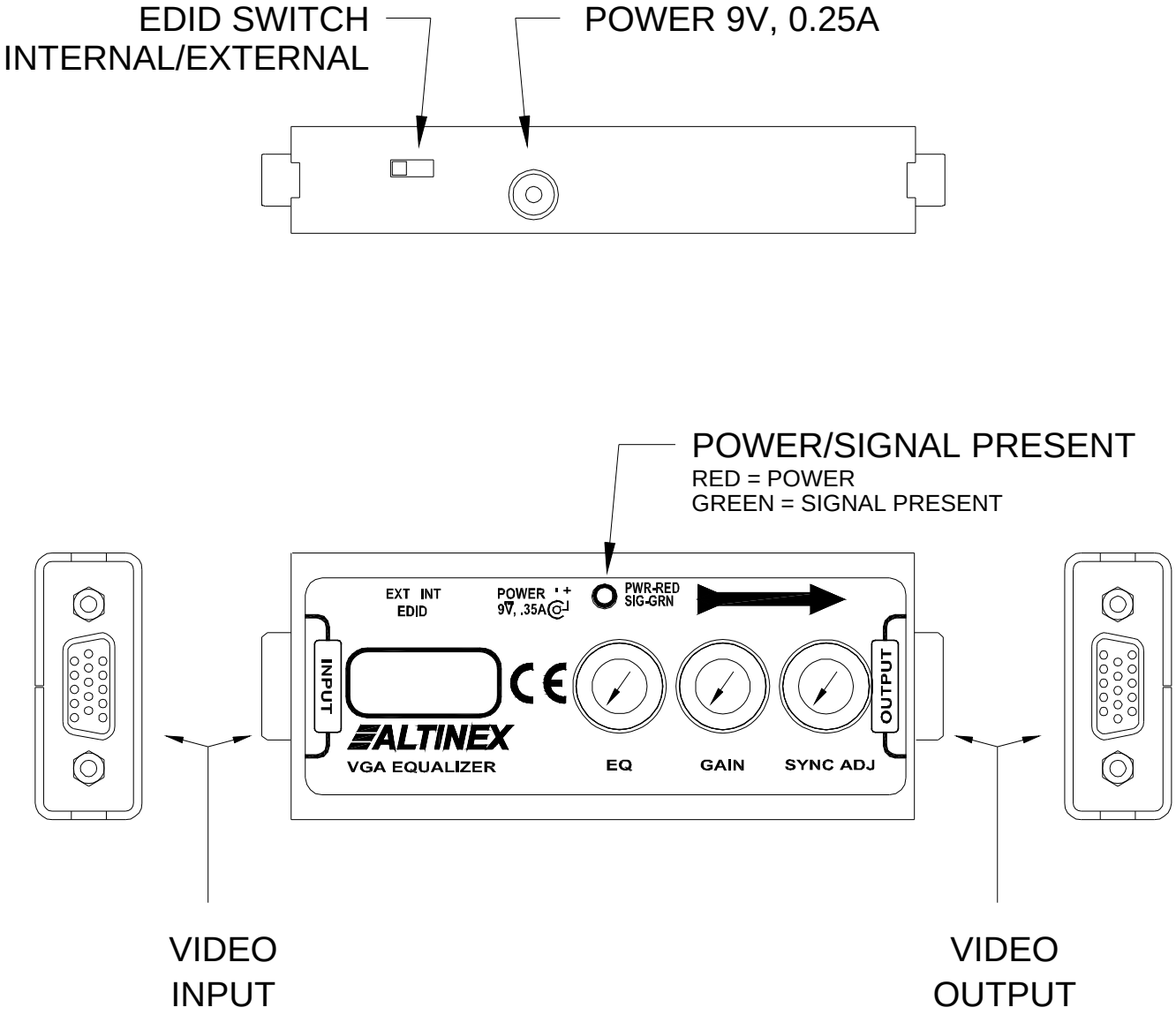

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APPLICATION DIAGRAMS 5

DIAGRAM 1: TYPICAL SETUP

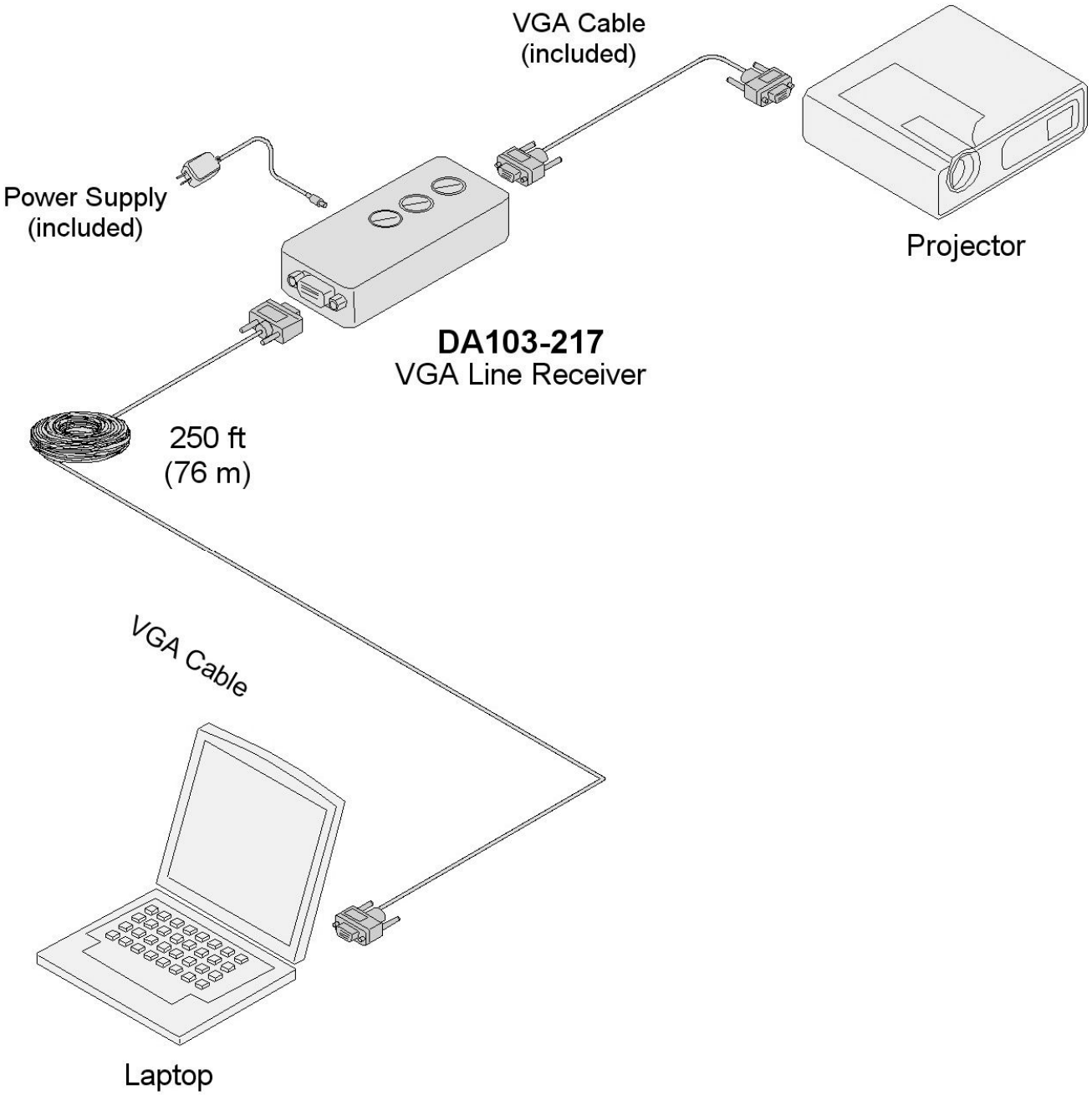

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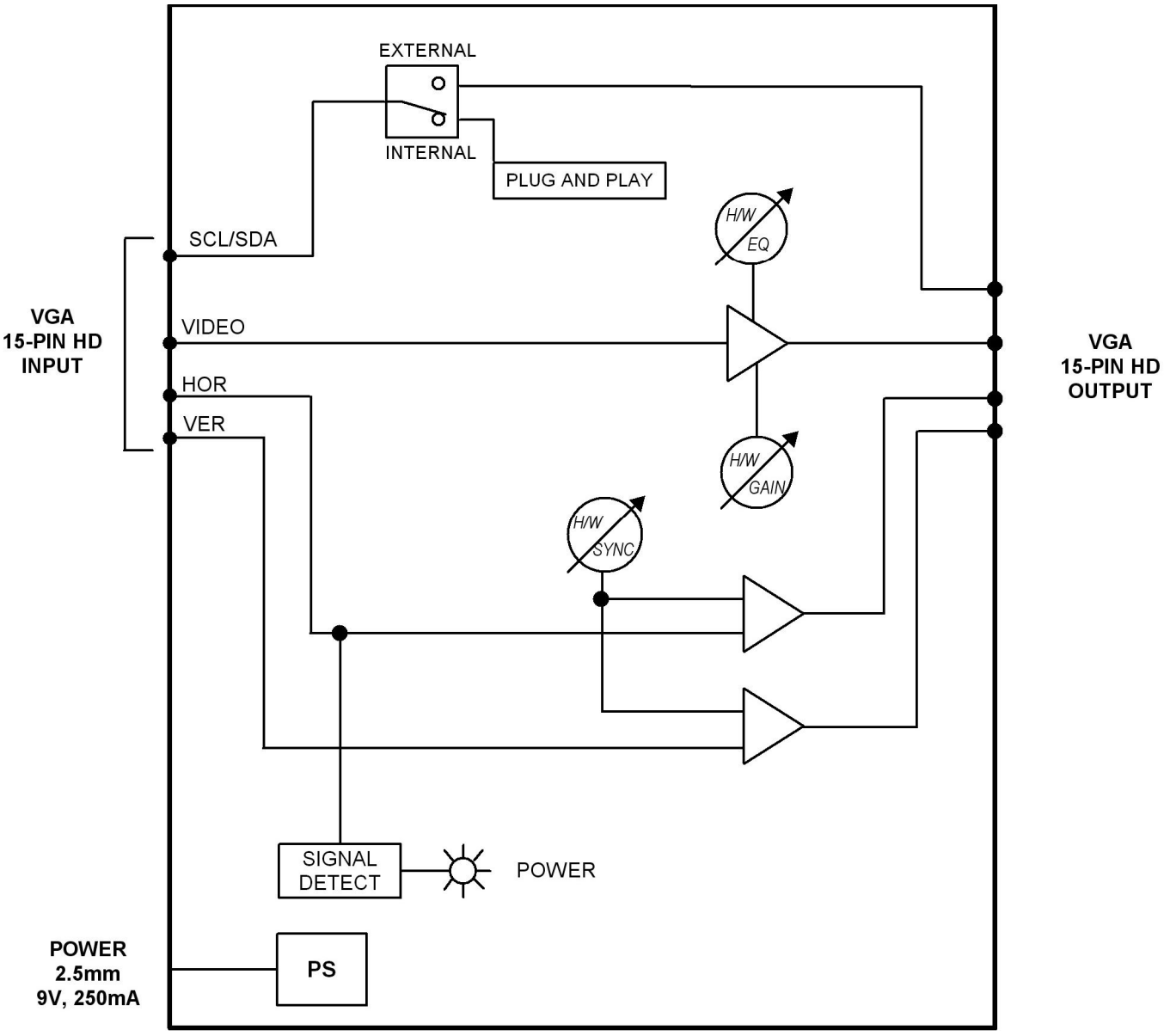
DIAGRAM 2: INTERNAL VIEW



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INSTALLING YOUR DA103-217 6

Step 1. Determine if the computer needs to receive available video resolutions from the display device or from the internal memory of the **DA103-217**. Set the EDID switch to INT for using the **DA103-217** internal memory or EXT to use the display resolutions.

The switch is located on the side of the unit and is accessible through a rectangular opening.

Step 2. Using the video cable provided, connect one end to the display and the other end to the output of the **DA103-217**.

Step 3. Connect the long cable from the source to the **DA103-217** video input.

Step 4. Apply power to the **DA103-217** using the power adapter provided. The Power/Signal Present LED will be RED if there is power and no signal and GREEN if a signal is present.

Step 5. Set the adjustment potentiometers as follows:

EQ..... Minimum (full CCW)

GAIN ..... Minimum (full CCW)

SYNC ADJ .... Midway (50%)

Step 6. If the image is visible, start by adjusting the EQ until the image is clear. A 250 ft (76 m) cable will require near maximum equalization.

If there is no image, start by slowly increasing the SYNC ADJ. Stop adjusting when the image is visible.

Step 7. While viewing the image on the display, fine-tune the image using the EQ and GAIN adjustments for the best image.

Step 7. Next, fine-tune the SYNC ADJ for the best image/screen position.

Step 8. The **DA103-217** is now operational.

OPERATION 7

The **DA103-217** will operate successfully as long as cables are attached properly and other technical specifications are followed.

The adjustments on the **DA103-217** Line Receiver are available to fine-tune the output image and to compensate for errors induced by cable quality, cable length, and variations in equipment.

7.1 ADJUSTMENTS

7.1.1 EQ

Video equalization is provided to fine-tune the displayed image on the remote display. Typically, for short cable runs the equalization will be set to near minimum. Cable lengths up to 250 ft (76 m) will require near maximum equalization.

7.1.2 GAIN

Video gain is provided to restore signal level and brightness to the remote display. Typically, this adjustment is made after the equalization has been set.

7.1.3 SYNC ADJ

The sync threshold adjustment allows changes to be made in the sync processing circuitry and to help recover and compensate for degraded signals. Always start this adjustment with the potentiometer set to the 50% position and make adjustment in small increments.

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TROUBLESHOOTING GUIDE 8

We have carefully tested and found no problems in the supplied **DA103-217**; however, we would like to offer suggestions for the following:

8.1 LED IS NOT RED

The LED should be ON and RED when power is applied and there is no video signal present. If the LED is ON and GREEN, the unit is receiving power and a SYNC signal.

Cause 1: No AC power.

Solution: Verify the adapter is plugged into a working AC outlet and that the outlet has power.

Cause 2: Adapter is not plugged into DA103-217.

Solution: Verify the DC power plug coming from the AC adapter is plugged all the way into the **DA103-217**.

Cause 3: The DA103-217 has a problem.

Solution: If there is AC power to the adapter and the LED still does not turn on, call ALTINEX at (714) 990-2300.

8.2 LED IS NOT GREEN

Cause 1: There is no power.

Solution: Disconnect the video input from the **DA103-217** and verify the LED is ON and RED indicating power is present. Reconnect the computer's video output. If the LED is still not GREEN see Cause 2.

Cause 2: There is no sync signal.

Solution: Verify the computer output is operating correctly by connecting it directly to the local monitor. If the display is good, call ALTINEX at (714) 990-2300.

8.3 NO REMOTE IMAGE

Cause 1: The source has a problem.

Solution: Check the image on the local monitor and verify the quality is good. If the local image is good, see Cause 2.

Cause 2: Cable connections are incorrect.

Solution: Make sure that cables are connected properly. Also, make sure that the continuity and wiring are good. If there is still no image present, see Cause 3.

Cause 3: Video equalization required.

Solution: Adjust the EQ potentiometer on the **DA103-217**.

In general, cable runs less then 50 ft (15 m) require little or no video equalization and should be set to minimum to start. Cable runs up to 250 ft (76 m) will require maximum equalization.

8.4 REMOTE IMAGE QUALITY IS POOR

Cause 1: The source has a problem.

Solution: Check the image on the local monitor and verify the quality is good. If the local image is good, see Cause 2.

Cause 2 Poor signal transmission.

Solution: Check the cables for continuity and make sure that connections are wired properly to verify that there is good signal transmission. If the image is still not correct, call ALTINEX at (714) 990-2300.

Cause 3: Video equalization required.

Solution: Slowly adjust the EQ, GAIN, and SYNC ADJ potentiometers on the **DA103-217** while viewing the display. If the image still cannot be set correctly, call ALTINEX at (714) 990-2300.

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9.1 LIMITED WARRANTY/RETURN POLICIES

Please see the ALTINEX website at www.altinex.com for details on warranty and return policies.

9.2 CONTACT INFORMATION

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